


Community Impact Assessment Midwest Regional Workshop

Visualization Tools For Public Involvement

Indianapolis, IN
September 9 ~12, 2003

Jerrold Bridges

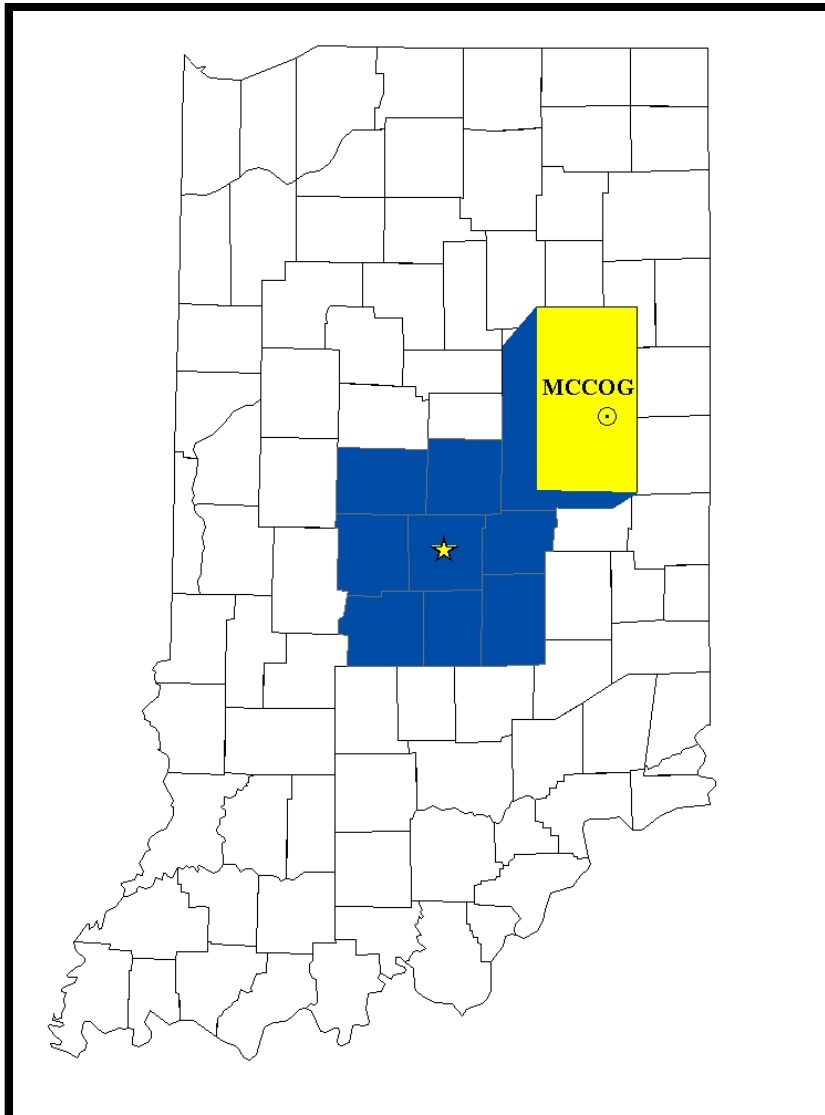
TCSP

U.S. Department of Transportation
Federal Highway Administration

Madison County Council of Governments
MCCOG .net

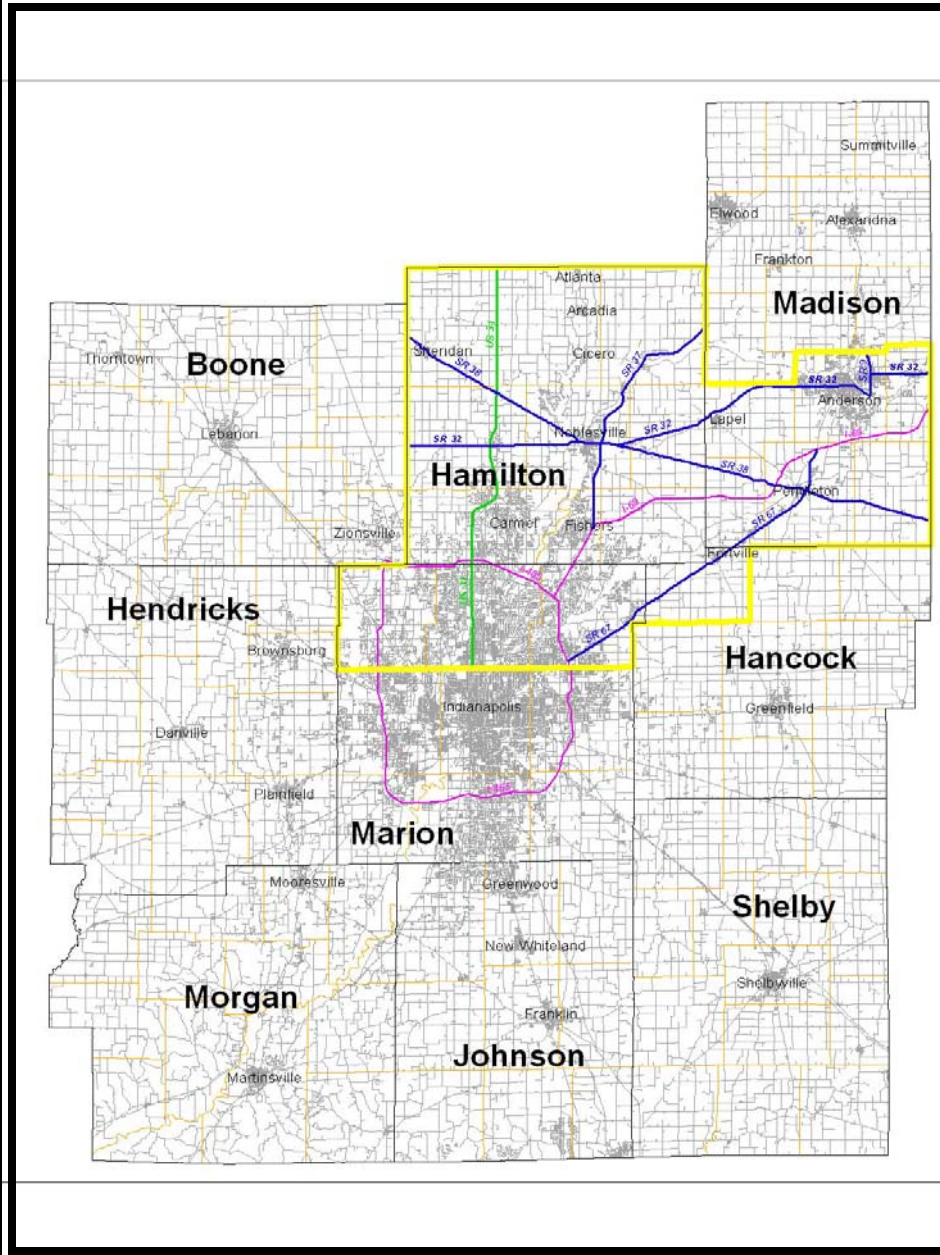
Study Area

- 700 Square Miles
- 20 Incorporated Areas
- 450,000 + people
- 1.5 million people in 30 mile radius of Madison County



Study Area

- Madison County
- Northeast Marion County
- Southern Hamilton County
- Northwest Hancock County.



Situation

- Madison County contributes between 34,000 and 40,000 vehicle trips daily to northern Indianapolis at I-69 and I-465
- Trip rates expected to increase greater than population growth
- Agricultural fields, woodlots, and wetlands converted to strip malls and big box retail, subdivisions, & suburban industrial parks at > 89,000 acres a year

Purpose of Study

The project will provide a unique, long-range regional focus on

- the consequences of current land use and transportation decisions on the consumption of land
- the development of tools to preserve land through regulatory & analytical tools for both land use & transportation
- the development of a livable communities model that concentrates o preservation & creation of livable communities utilizing small town as the paradigm

Purpose of Study (continued)

The project will provide a unique, long-range regional focus on

- the benefits possible through certain changes in the development pattern process & the development of a cost alternative model
- the development of state-of-the-art alternative public input mechanis for both public participation and education to produce a long-term vision for the greater county regional area

Supporting Objectives

1) Improve the efficiency of the corridor transportation system

2) Reduce the impacts of transportation on the environment

3) Reduce the need for costly future public infrastructure

4) Ensure the efficient access to jobs, services, and trade centers

5) Encourage the private sector to consider broadening current development paradigms

Defining Livable Communities

- **Awahnee Principles:** comprehensive frameworks to guide development and enhancement of communities.

- **Neo-Traditional Developments:** physical models that exempl community through architectural design and neighborhood layout.

- **Sustainable Communities:** integrated approach to strengt communities, emphasizing the balance between social, economic, a environmental aspects.

- **Smart Growth:** formal development tools implemented government to guide the location for development and reward protection of resources.

Two Basic Units in Livable Communities

•**Streets or Pathways:** the foundational blocks for tying all componen of the community together. They provide the basic interface for circu-lation as well as the movement of goods and people.

•**Neighborhoods:** the basic unit where the majority of activity should take place for life.

Visioning

- A process by which a community envisions the future it wants, and plans for how to achieve it
- It promotes consensus building by bringing people together through shared visions of what they want their community to become
- Once a community has reached a common vision, it can begin the process of working consciously to work toward that vision or goal
- A vision statement is the formal method of depicting what a commun wants to become in the future. This statement is the starting point fo the creation and implementation of action plans

Visioning Techniques

• **Visual Preference Survey:** A technique developed by Anton Nelessen that utilizes picture images to ascertain what a community likes in terms of the built and natural environment. Images of various types of environments (streets, parking lots, site designs, residential, commercial, parks, transit landscaping, civic structures, etc.) are displayed through slides or pictures for each participant to rate. The scores are tabulated to determine likes and dislikes from the community.

• **Visual Graphics Survey:** A technique that contrasts images about development forms from pictures and drawings. This technique is a modified version of the Visual Preference Survey.

• **Visual Design Charrettes:** The charrette is normally a three to seven day intensive, collaborative effort that brings together concerned citizens and stakeholders to develop a detailed and finished design plan for a specified area of a community.

• **Visioning Brainstorming:** Visioning is an exercise that brings together as many citizens and stakeholders as possible to establish a common, practical vision regarding the future of a community. This technique rarely uses images. It is utilized to develop goals and objectives for long-range policy.

Visual Preference Survey

Visual Preference Survey

Visual Preference Survey

Visual Preference Survey

Visual Preference Survey

Visual Graphics Survey Design Comparisons

Typical Urban Arterial/Highway Design

- Sidewalks adjacent to street
- No median
- Signage clutters corridor & distracts drivers
- Vehicle safety takes precedence over other modes
- No landscaping

Alternative Urban Arterial/Highway Design

- Sidewalks separated by planting strip
- Planted median to improve visual separation
- Signage reduced to minimal visual impact
- Improved safety for all modes of travel
- Landscaping frames corridor

Visual Graphics Survey Design Comparisons

Typical Urban/Suburban Highway Design

- Open ditch drainage on urban arterial highway
- Signage not to scale for corridor
- No landscaping, no buffers on side of road
- No sidewalks
- Median not landscaped

Alternative Urban/Suburban Highway Design

- No open ditch drainage
- Separation of pedestrian & vehicular traffic by planting strip
- Set-back signage
- Planting strip wide enough for trees
- Median landscaped

Visual Graphics Survey Design Comparisons

Alternative Urban Arterial/Highway Design

- Driving lanes not separated by median
- Minimized number of lanes
- Parking on both sides of street
- Landscaping separates travel modes
- Landscaping frames corridor

Alternative Urban Arterial/Highway Design

- Driving lanes not separated by median
- Minimized number of lanes
- Landscaping separates travel modes
- Intensified lighting improves night safety
- Design & landscaping frame corridor

Visual Graphics Survey Design Comparisons

Typical Urban Arterial Intersection

- Traffic channelization handled by asphalt island
- Design does not allow safe interface between modes of travel
- Design of channelization reduces visual recognition, specifically at night & some seasons
- No designated crossing for pedestrians
- No landscaping or grade separation

Alternative Urban Arterial Intersection

- Traffic channelization handled by raised green island
- Design provides for better & safer modal interface
- Design of channelization provides for better visual separatio traffic in all lighting conditions & seasons
- Pedestrian crossings marked
- Landscaping & grade separation

Visual Graphics Survey Design Comparisons

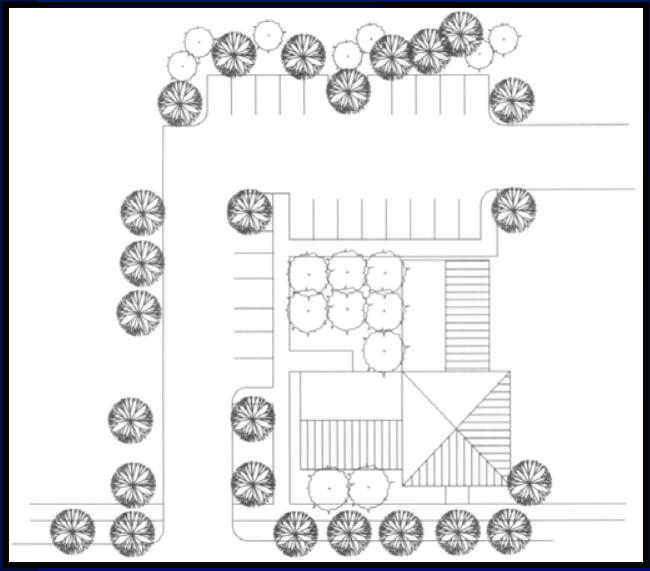
Alternative Urban Corridor Design

- Design provides for excellent separation of modal travel
- Lateral concrete sections provide traffic calming effect
- Raised planted median offers pedestrian refugee
- Multiple access points and landing zones for pedestrians & transit
- Safety for all modes of travel built into design

Alternative Urban Corridor Design

- Landscaping frames corridor
- Design provides for excellent separation of modal travel
- Use of paving material to indicate entrance into high pedestria usage corridor
- Sidewalks & landing zones separated from traffic b landscaping

Visual Graphics Survey Design Comparisons



Off-Street Parking

- Parking lots should be located to side and rear of buildings
- Parking should not be permitted in the front setback or be in front of any building adjacent to the street, including corner lots
- Side yard parking should be limited to a single row of vehicles, and should be well buffered from the street

Off-Street Parking

- Parking lots should be screened from the street and sidewalk with landscaping, berms, wall and.or fences
- Landscaping should be designed to provide direction for both vehicular and pedestrian traffic
- Landscaping should separate pedestrian and vehicular traffic

Photomontage/Photo-simulation

Existing State Road 9 Corridor: Anderson, IN

Alternative State Road 9 Corridor: Anderson, IN

Photomontage/Photo-simulation

Photomontage/Photo-simulation

Existing Interchange Area of I-69 & Exit 34: Daleville, IN

Alternative Interchange Area of I-69 & Exit 34: Daleville, IN

Photomontage/Photo-simulation

Existing State Road 67 Corridor: East of Daleville, IN

Developed State Road 67 Corridor: East of Daleville, IN

Visual Tools for Development Ordinances

R1 - Single-Family Residential District

3.7 "R1" District Intent, Permitted Uses, and Special Uses

District Intent	Permitted Uses	Special Uses
The "R1" District is intended to provide for the development of large single-family detached homes on medium-sized lots. The provisions that regulate this land use district should provide for the development of medium density residential neighborhoods. Madison County's Plan Commission and Board of Zoning Appeals should strive to integrate this type of neighborhood with higher density residential developments and neighborhood-serving commercial facilities. This district should be protected from conflicting land uses and be located in proximity to "CR" districts in a way that does not inhibit farming practices. The Plan Commission and Board of Zoning Appeals should strive to promote an average net density of 2.0 to 2.5 dwelling units per acre community-wide in the "R1" district.	**Agricultural Uses** •agricultural crop production •agriculture crop processing (of materials produced on-site) •agriculture crop storage (of materials produced on-site) •farm implement storage (operable implements used in the farming operation - not for sale) **Residential Uses** •dwelling, single-family •manufactured home (type I) •manufactured home (type II) •residential facility for developmentally disabled/mentally ill •child day-care home •home occupation (type I) **Institutional/Public Uses** •nature preserve •passive recreation trail	**Agricultural Uses** •grazing and pasture land •livestock **Residential Uses** •dwelling, single family (acce an additional dwelling) •assisted living/retirement fac •nursing home •home occupation (type II) •bed and breakfast facility **Institutional/Public Uses** •parks and recreation uses •institutional uses (small sca •police, fire, or rescue station •church or other place of wor •government office/facility •school (P-12) **Communication/Utilities** •utility substation •public wellfield/pumphouse •water tower •wireless telecommunications tower

Use Notes & Subdivision Specifications

The Use Matrix at the end of this Article (p80 & 81) provides detailed use listings.

The flood hazard provisions of this Ordinance shall apply to all districts as specified in Article 6, Section 6.10.

The Corridor Development Overlay District shall apply as specified in Article 4 of this Ordinance.

Any district may be rezoned to "PD" (Planned Unit Development) as specified in Article 9 of this Ordinance.

The subdivision of land in this district shall be consistent with the specifications of the Madison County Subdivis
Control Ordinance.

R1 - Single-Family Residential District

3.8 "R1" District Standards

Minimum Lot Area:
•12,000 square feet

Minimum Lot Width:
•80 feet

Minimum Lot Frontage:
•70% of the lot width (consistent with the requirements of the Subdivision Control Ordinance)

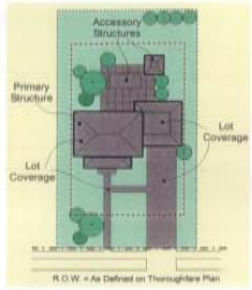
Maximum Lot Depth:
•2.5 times the lot width

Sewer and Water:
•Requires connection to public water and sewer

Minimum Front Yard Setback:
•50 feet when adjacent to an Arterial
•35 feet when adjacent to a Collector
•30 feet when adjacent to a Local Road

Minimum Side Yard Setback:
•5 feet each side
•20 feet total

Minimum Rear Yard Setback:
•25 feet

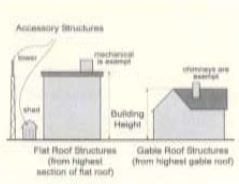


Maximum Lot Coverage:
•square footage of all primary and accessory structures, and impervious surface cannot exceed 35% of the Lot Area.

Minimum Living Area:
•1,800 square feet

Minimum Ground Floor Area:
•40% of the total living area

Maximum Primary Structures per Lot:
•1

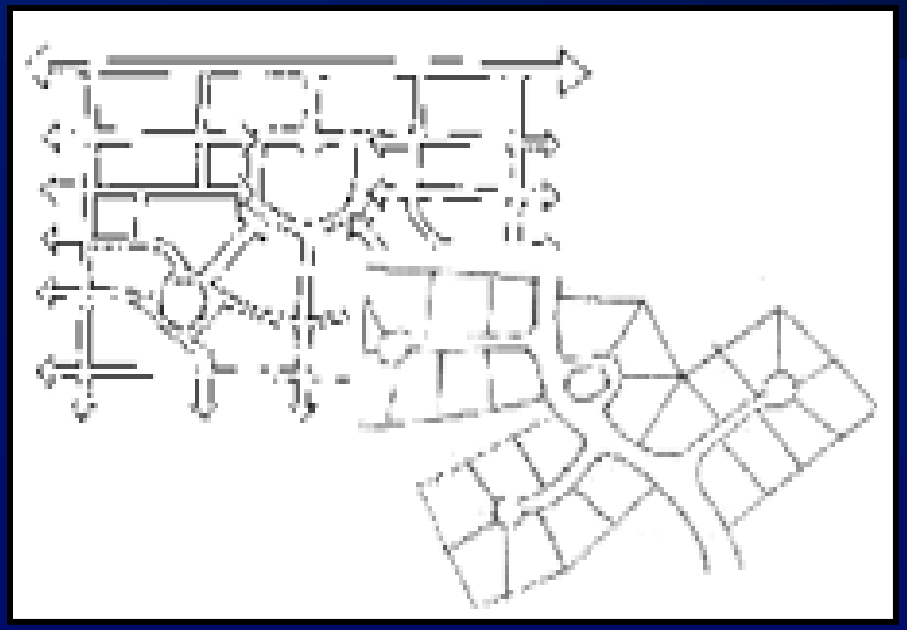


Maximum Structure Height:
•35 feet for the Primary Structure
•25 feet for Accessory Structures
•All telecommunication facilities shall conform to the requirements of Art. 6

Additional Development Standards that Apply

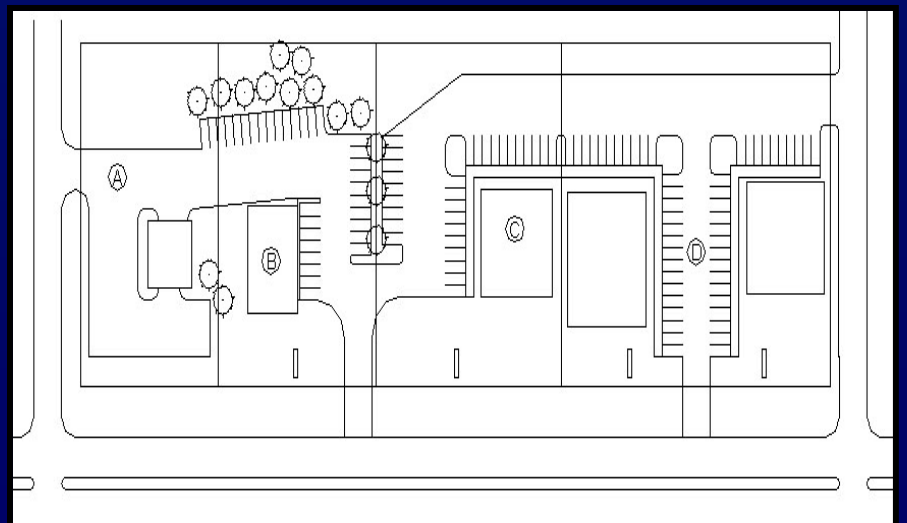
Lot, Yard, & Density (LY) •LY-01 ..... Page 93 **Height (HT)** •HT-01 ..... Page 94 **Accessory Structure (AS)** •AS-01 ..... Page 95 •AS-03 ..... Page 96 **Buffer Yard (BY)** •BY-01 ..... Page 99 **Environmental (EN)** •EN-01 ..... Page 102 **Flood Hazard Area (FH)** •FH-01 ..... Page 104 **Parking (PK)** •PK-01 ..... Page 110 •PK-02 ..... Page 110 •PK-05 ..... Page 113 •PK-06 ..... Page 113 •PK-07 ..... Page 113	**Entrances/Drives (ED)** •ED-01 ..... Page 115 **Sight Visibility (SV)** •SV-01 ..... Page 118 **Open Space (OS)** •OS-01 ..... Page 119 **Home Occupation (HO)** •HO-01 ..... Page 120 **Telecom. Facilities (TF)** •TF-01 ..... Page 123 •TF-02 ..... Page 126 **Farm Animal (FA)** •FA-01 ..... Page 127 **Mobile/Man. Home (MS)** •MS-01 ..... Page 128 **Satellite Dish (SA)** •SA-01 ..... Page 132	**Temporary Uses (TU)** •TU-01 ..... Page 134 •TU-02 ..... Page 134 •TU-03 ..... Page 135 **Fences and Walls (FW)** •FW-01 ..... Page 137 •FW-02 ..... Page 137 **Landscaping (LA)** •LA-01 ..... Page 138 **Seasonal Housing (SH)** •SH-01 ..... Page 143 **General Signs (GS)** •GS-01 ..... Page 147 **Temporary Signs (TS)** •TS-01 ..... Page 150 **Permanent Signs (PS)** •PS-01 ..... Page 151 •PS-02 ..... Page 151

Visual Tools for Plans & Ordinances



Grid Streets are a web of intersecting streets that are rectilinear in their alignmen and orthogonal at intersections.

Curvilinear Streets are a web o intersecting streets that do not intersect a right angles but follow the curve of the land



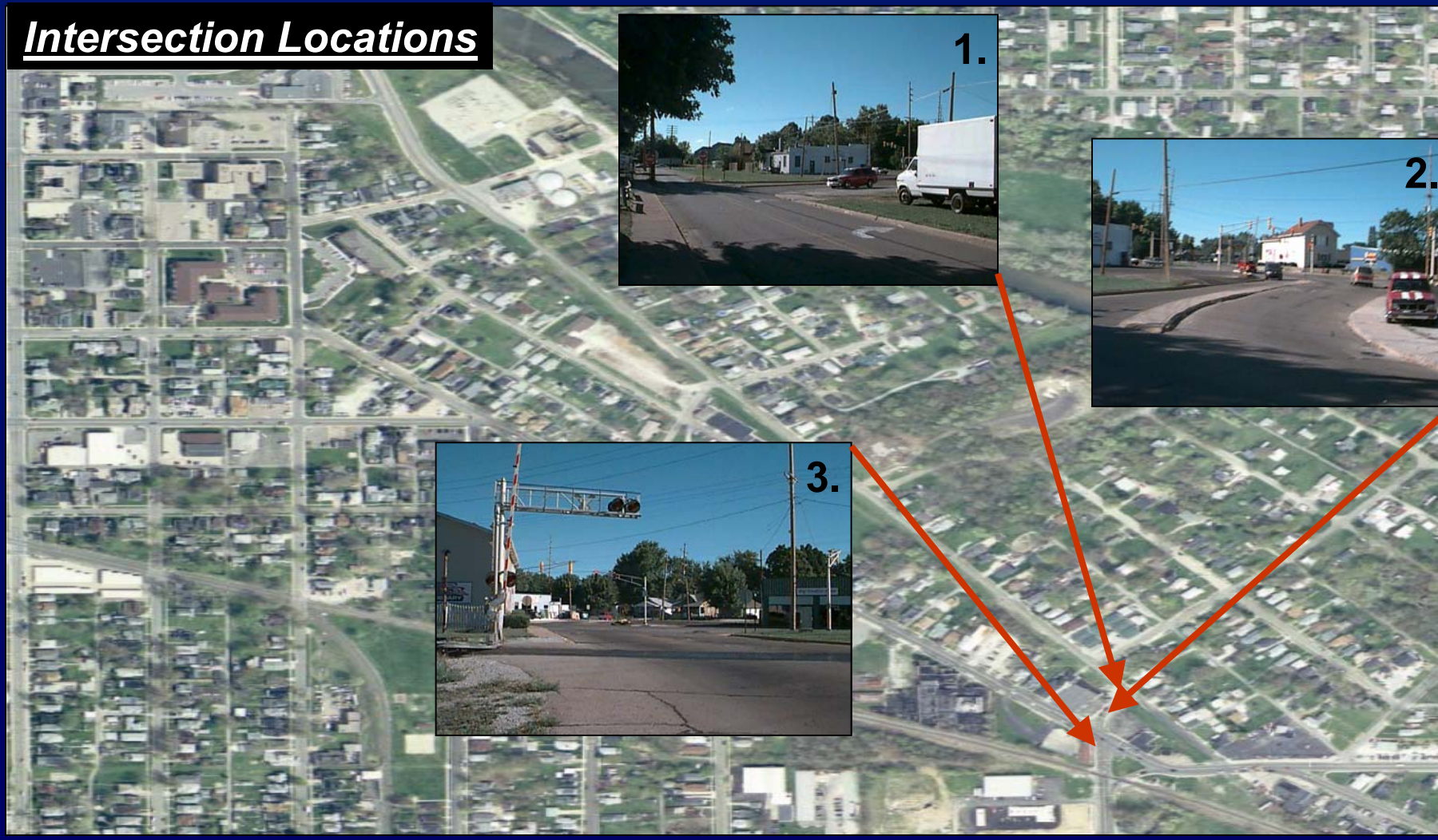
Corridor Preservation – Refers to an technique that state and local governmen use to protect existing transportatio corridors or planned corridors fro inconsistent development in an effort t minimize negative environmental, social, economic impacts (e.g., shared access cross easements)

Visual Tools for Plans & Ordinances

Access Control- The process of managing access to land development to preserve the safety and efficiency of the transportation system.

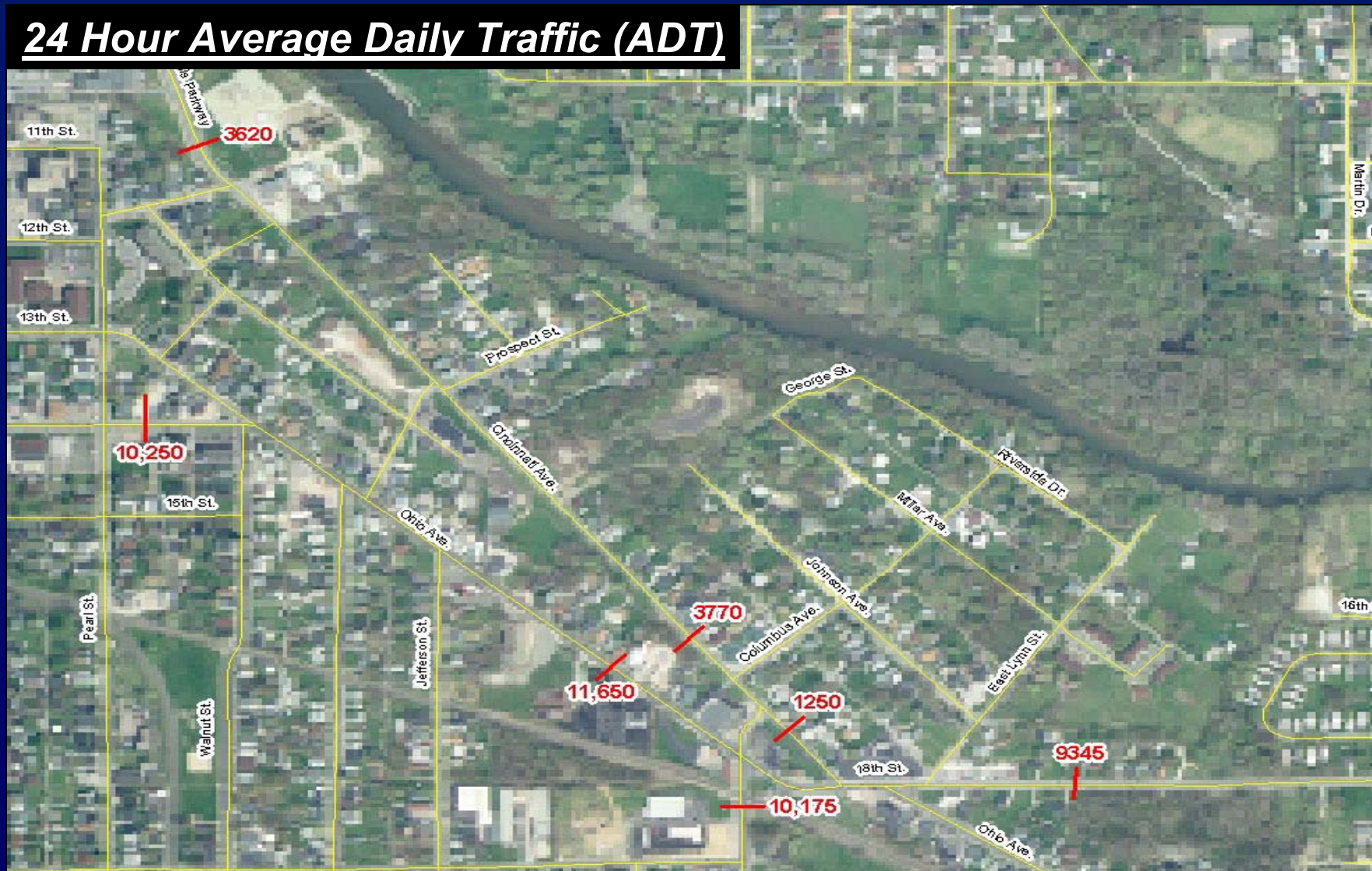
Pedestrian Friendly – Uses that generate pedestrian interest, safety, and activity or that are within a suitable walking distance from each other.

Visual Tools for Corridor Study Presentation



Visual Tools for Corridor Study Presentation

24 Hour Average Daily Traffic (ADT)



Visual Tools for Corridor Study Presentation

Intersection Turning Movements

Visual Tools for Corridor Study Presentation

Existing Conditions

- Curb Radius too sma
- Building limits curb radius
- Lanes too narrow
- Deteriorated sidewal
- Existing access at co
- Limited & poor stree lighting
- Above ground utilit

Recommendations

- Lane widening
- Increase curb radius
- New sidewalks
- New curb and gutter
- New street lighting
- Remove structure
- Remove access cut
- Add landscaping
- Buried utilities

3-D Visualization Tools

Ladysmith Town Center
Perspective

Ladysmith Town Center
Perspective

3-D Visualization Tools

Ladysmith Town Center
Perspective

Ladysmith Town Center
Plan View

3-D Visualization Tools

Riviera Beach, FL
US 1 Existing Corridor

Riviera Beach, FL
US 1 Proposed Corridor

3-D Visualization Tools

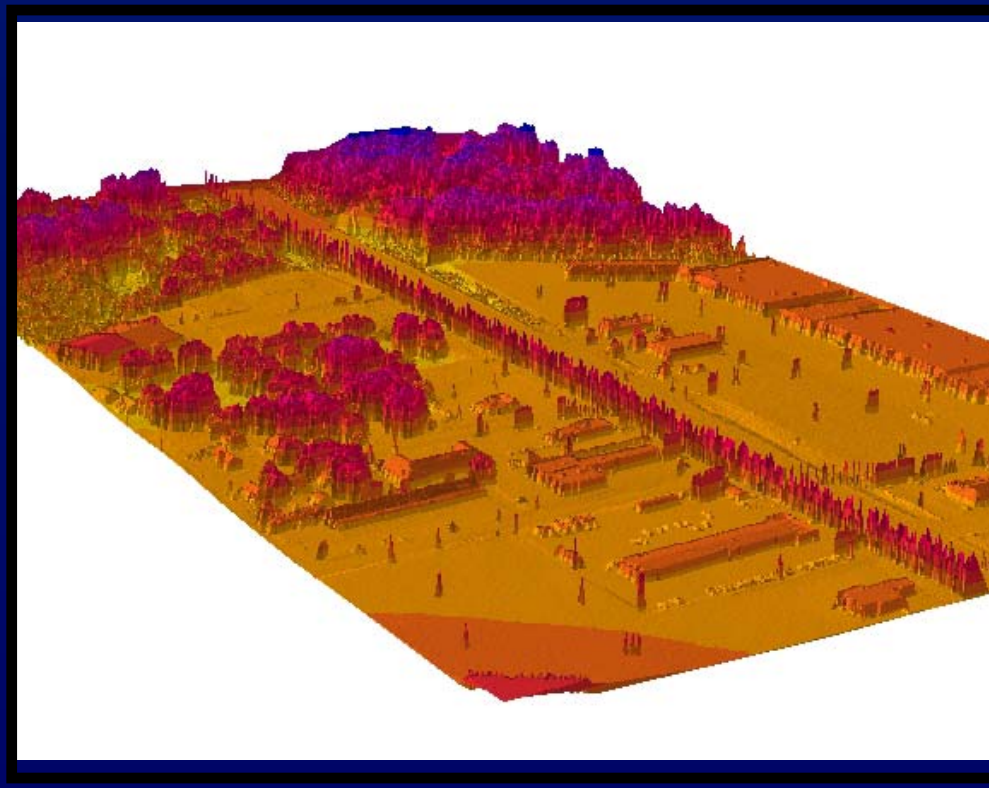
Riviera Beach, FL
Existing Downtown Corridor

Riviera Beach, FL
Downtown Corridor: Alternative Ordinance

Riviera Beach, FL
Downtown Corridor: Proposed Ordinance

3-D Visualization Tools LiDAR

- LiDAR Point Cloud Data
- Ortho-Photography Project
- MPA Region
- 500 Square Mile Area
- State Road 9 in Anderson, IN

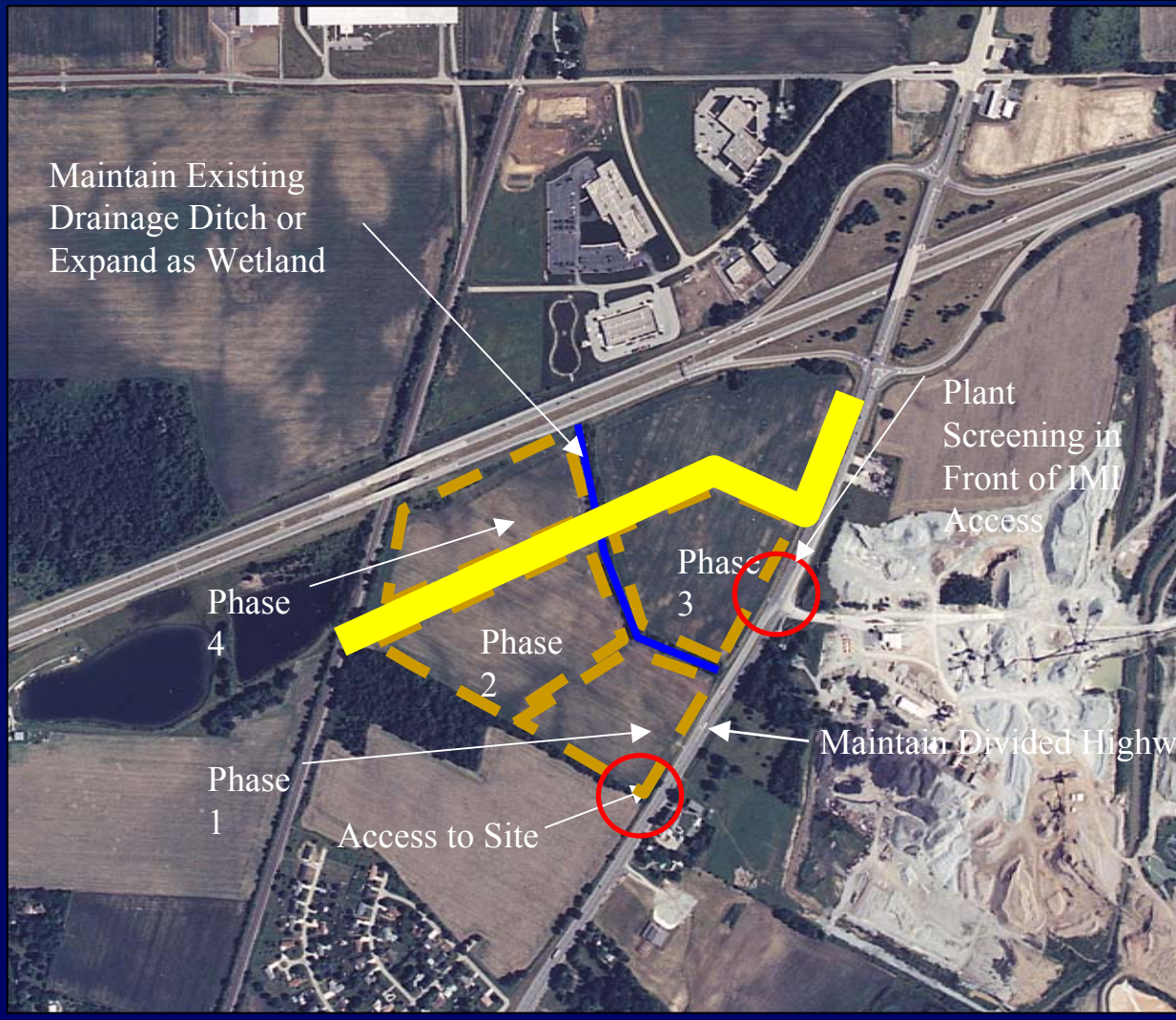


Integration of Visualization Tools

- LiDAR Bare Earth Data
- Ortho-Photography Project
- Site Study
- I-69 Interchange 22

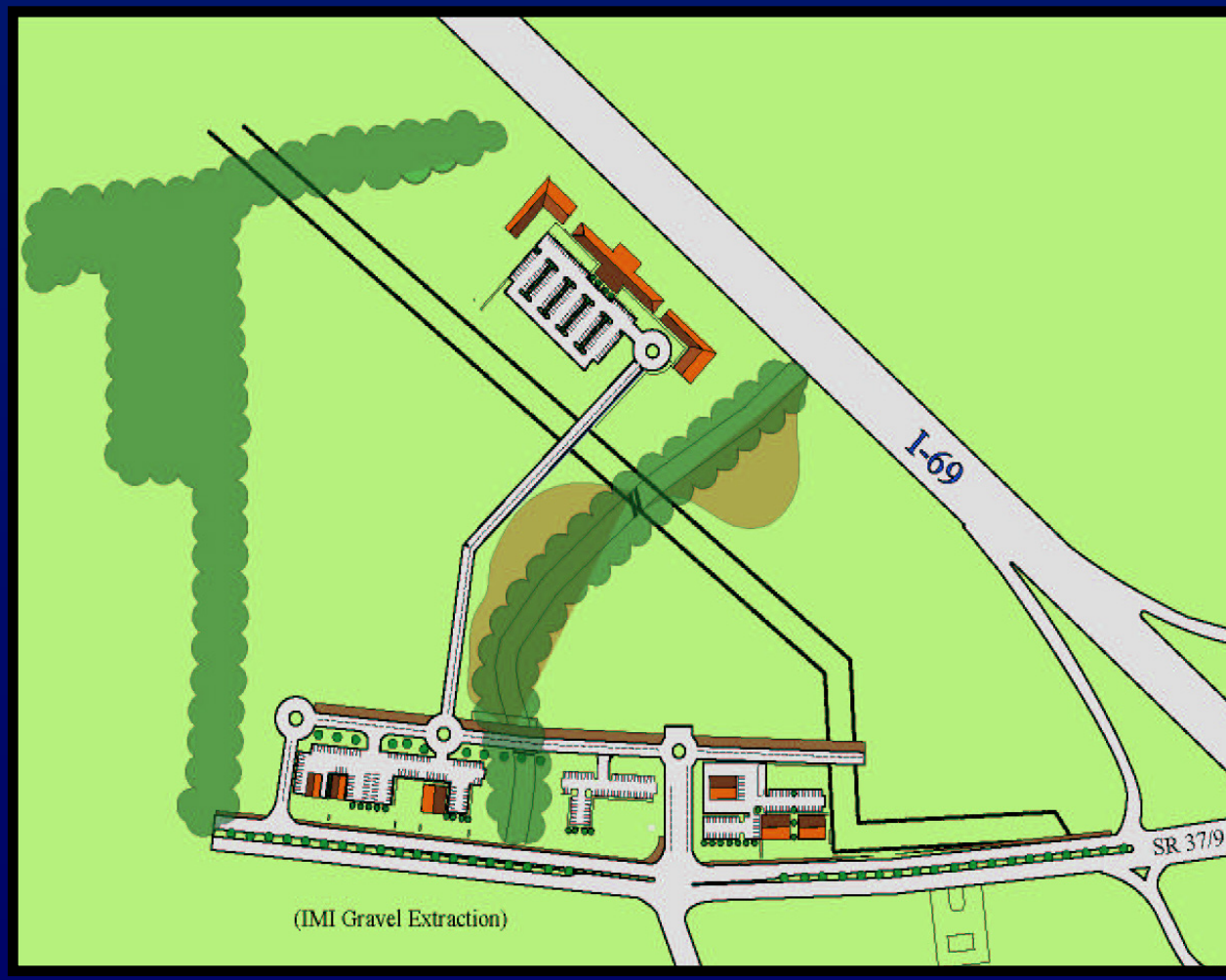
Integration of Visualization Tools

- Aerial Photograph
- Site Study
- Site Recommendations
- I-69 Interchange 22



Integration of Visualization Tools

- Site Study
- Plan View Concept
- Site Recommendations
- I-69 Interchange 22



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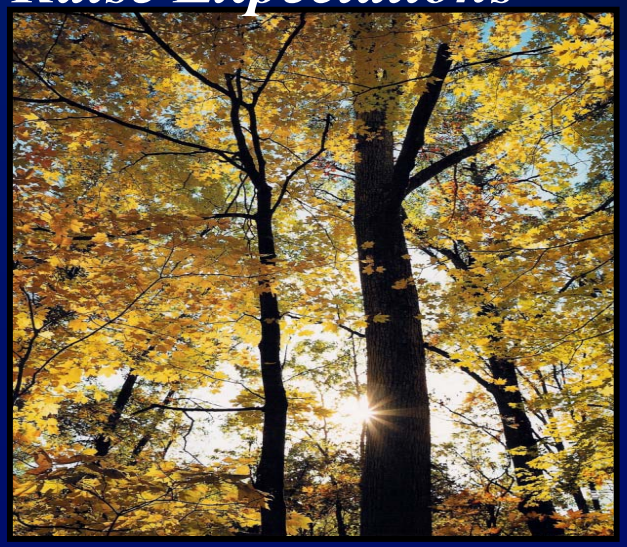
Raise Expectations



Sustain Environment

Illuminate Ideas

Remember Heritage

Summary

"Great streets do not just happen. Overwhelmingly, the best streets derive from a conscious act of conception and creation of the street as a whole. The hands of decision makers are visible."

Allan B. Jacobs

"The people of cities understand the symbolic, ceremonial, social and political roles of streets, not just those of movement and access. Regularly, they protest widenin They object to high volumes of fast traffic on their streets. On the other han proposals to improve existing streets, to make them special, great places are comm and are regularly approved by voters who tax themselves to achieve this end."

Allan B. Jacobs

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Jerrold L. Bridges
Madison County Council of Governments
16 East 9th Street
Anderson, IN. 46016
Office Phone (765) 641-9482
Office Fax (765) 641-9486
E-mail: jbridges@mccog.net

Comparisons

Comparisons